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EXAMINER	
NAFF, D	
ART UNIT	PAPER NUMBER
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KENNETH E. MADSEN
KENYON & KENYON
ONE BROADWAY
NEW YORK, NY 10004

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined ☒ Responsive to communication filed on 1/6/95 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☒ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice of Draftsman's Patent Drawing Review, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____.

Part II SUMMARY OF ACTION

1. ☒ Claims 1-16 are pending in the application.
   Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☐ Claims _____ are rejected.
5. ☒ Claims 1-16 are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____. has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☒ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☒ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application apppears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Receipt is acknowledged of the Supplemental Declaration under 37 C.F.R. §1.67(a) filed 3/8/94.

The following is a quotation of the first paragraph of 35 U.S.C. § 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to provide an enabling disclosure(new ground of rejection).

The specification has not described the process of claim 2 in sufficient detail to be enabling. A working example of the process has not been described. The only description provided is at page 9, lines 4-13. This is merely a general outline and appears to be based on speculation how an alternative embodiment might be performed. Determining specific working conditions for the process would require undue experimentation and speculation based on the meeker description provided.

Claim 2 is rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

Claims 1-16 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are confusing and unclear by claim 1 not having clear antecedent basis for "the free hexoses" in line 6. After "material" in line 3, it is suggested that -- containing free hexoses -- be inserted.

Dependent claim 2 is confusing and unclear as to how the steps in this claim relate to further limit the process steps of claim 1. It appears that to carry out the steps of claim 2 all steps in claim 1 would have to be eliminated. In claim 2, there is not simultaneous production of xylitol and ethanol as required in the preamble of claim 1 since the xylitol is produced and separated before fermenting to produce ethanol. Therefore, claim 2 contradicts with claim 1. Claim 2 does not appear to further limit the process of claim 1 but instead sets forth a complete alternative process that does not employ the steps of claim 1. Claim 2 should be written in independent form. In line 7 of claim 2, reciting "crystallizing the xylitol solution" is unclear since it appears xylitol rather than the solution is crystallized.

In line 3 of claim 11, it is unclear as to whether steam explosion and enzymatic hydrolysis are used in combination or

alternatively. Claim 14 requires hydrolysis to be enzymatic. This indicates they are alternative forms of hydrolysis and "and" should be changed to -- or --. If the two hydrolysis methods are to be carried out in combination, then claim 14 should be deleted since claim 11 already requires enzymatic hydrolysis.

In line 3 of claim 12, "by" should be changed to -- with a -- to be clearer.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1 and 3-16 are rejected under 35 U.S.C. § 102(a) as being clearly anticipated by Heikkila et al(newly cited)(equivalent of WO 90/08193).

Claim 2 is rejected under 35 U.S.C. § 103 as being unpatentable over Heikkila et al.

The claim is drawn to producing xylitol and ethanol by extracting a hydrolyzed liqnocellulose-containing material to form an extracted solution, fermenting the extracted solution to produce xylitol, separating and crystallizing the xylitol to obtain a solution free of xylitol, fermenting this solution to produce ethanol and recovering the ethanol.

Heikkila et al disclose producing xylitol and ethanol by fermenting a hydrolyzed liqnocellulose-containing material with yeast to produce xylitol and ethanol, recovering the ethanol, separating a xylitol-rich fraction and recovering xylitol therefrom.

It would have been a matter of individual preference and convenience to propose carrying out the process of Heikkila et al by producing and recovering xylitol first and then subsequently producing and recovering ethanol. No unexpected result is seen in such a modification of the Heikkila et al process.

Claims 1-16 are rejected under 35 U.S.C. § 103 as being unpatentable over Jeffries or Lohmeier-Vogel et al in view of Jaffe et al('636) and Onishi et al('369) for reasons set forth in the previous office action of 5/9/94.

Applicant's arguments filed 1/6/95 have been fully considered but they are not deemed to be persuasive.

Applicants urge that in the claimed process, xylitol is directly formed from xylose and ethanol is formed from hexoses. However, this formation of xylitol and ethanol is inherent in the processes of the primary references.

Claims 1-16 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-28 of U.S. Patent No. 5,081,026. Although the conflicting claims are not identical, they are not patentably distinct from each other because the present claims are drawn to variations of the patented claims that would have been matters of obvious choice depending on individual preference and convenience.

The obviousness-type double patenting rejection is a judicially established doctrine based upon public policy and is primarily intended to prevent prolongation of the patent term by prohibiting claims in a second patent not patentably distinct from claims in a first patent. *In re Vogel*, 164 USPQ 619 (CCPA 1970). A timely filed terminal disclaimer in compliance with 37 C.F.R. § 1.321(b) would overcome an actual or provisional rejection on this ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 C.F.R. § 1.78(d).

Any inquiry concerning this communication should be directed to David M. Naff at telephone number (703) 308-0520.

Fax number is (703) 308-0294.

DMN

3/9/95

DAVID M. NAFF
PRIMARY EXAMINER
ART UNIT 182